Outline

• Criterion Research overview
• US and global inventories, past and present
• US refining system, capacity and margins
• US gasoline and distillate estimated exports
• Global and US estimated oil production
• US natural gas inventory levels and projections
• Summary and conclusions
Who is Criterion Research?
Meet the Principals

**Kyle Cooper – Research**

Kyle Cooper is a founding partner of Criterion Research, a Houston based research and data aggregation firm. Kyle leads fundamental analysis for Criterion to capitalize on the vast amount of unstructured data in the market. Prior to Criterion, Kyle Cooper was Managing Director of Research for Cypress Energy Capital Management, a Houston based natural gas specific commodity hedge fund. Kyle continues to provide fundamental analysis to IAF Advisors clients, a consulting firm he founded in 2006.

Kyle began his energy trading career at Salomon Smith Barney and held analysis roles at Koch, El Paso and TXU. He returned to Smith Barney/Citigroup in 2000 as a Vice President for energy futures research. He left Citigroup in 2006 to join Velite Capital Management as Managing Director of Research. He left Velite to form BTU Capital Management in 2010 prior to joining Cypress. After more than two decades of analysis and hands-on trading in the energy sector, Kyle decided to join forces with John to develop a single tool that could associate information to solid fundamental analysis quickly and concisely. The combination of John’s technology skills combined with Kyle’s broad industry experience provides a unique and unmatched fundamental data tool.

Kyle has consistently been near the top of weekly natural gas storage forecast surveys in accuracy and is commonly quoted in industry publications as well as appearing on CNBC.

**John Best – Technology**

John Best is a founding partner of Criterion Research, a Houston based research and data aggregation firm. John leads the technology development for Criterion to capitalize on the vast amount of unstructured data in the market. Prior to Criterion, John Best was the Vice President of Research and Product Development for IIR Energy, which provided infrastructure information on energy assets, as well as real-time tracking of planned and unplanned power generation outages, refinery turnovers, and midstream natural gas disruptions that affect the trading community. In 2012, John sold his previous data aggregation company, TCT Data, to IIR Energy in order to capitalize on their combined data sets.

After more than a decade of analysis and hands-on trading in the energy sector, John realized the need for a single tool that could aggregate the large amounts of data fundamental to the energy-trading community. This prompted John to develop proprietary software that could quickly and efficiently pull in massive amounts of data and use automated quantitative analysis models to provide options valuation and flexible data comparisons for trading in the power, crude oil and natural gas markets.

John holds a Bachelor of Science in Business Administration specializing in accounting and finance from Creighton University and remains a Certified Public Accountant in Texas.
What Makes Criterion Unique?
Technology designed to integrate diverse data sets

Structured Data
- Weather
- Production
- Demand
- Exports
- EIA
- EPA
- Pipeline Flows

Research
- Demand
- Production
- Upcoming Projects
- Mergers and Acquisitions
- Layoffs
- Plant closures

Unstructured Data
- News
- FERC Filings
- Earnings Releases
- EPA Reports
- SEC Filings
- Investor Presentations
Three Legs of Service
Bringing together all the pieces

- Weekly highlights
- Earnings insights
- Special topics

- Daily Market Review
- Natural Gas Storage Report
- Petroleum Report

- News and data query
- Customized user portfolios
- Email alerts
- Relevant commentary and summaries
Research

Driven from market driving news and fundamentals

- Research is driven from the key market news and analysis
- 4th quarter earnings season provided numerous insights on the resource markets
Reporting
Providing timely information on storage and other market drivers

Sample Commentary
WX was bearish with net change +4.4 bcf higher injection across the forecast. The largest weekly change was +3.1 in 10/23.

10/23 increased +5 from +70 to +75. Temp adj daily storage has spiked recently and implies still large weekly builds.

Even after revisions yesterday, US production is well off recent peaks at 72.7 bcf and just 71.7 bcf today. Today should be revised higher. Total demand is still quite strong at +5.0 today with yesterday revised to +6.0. The 7 day average is +6.0.

Nukes had 2 up and 1 down with net +142 MW higher to 79,848 MW, down (4,329) MW YOY. Net of capacity changes was +213 MW higher. There are 16 units offline with 16,239 MW of capacity offline.

Key Features
- Proprietary temperature forecasts
- Storage forecasts from Kyle Cooper, consistently ranked in the top forecasters
- Production forecasts
- Crude oil analysis
- CFTC and changes in open interest
- Volatility curves
News
Bringing the unstructured data together with the structured

News
• Articles
• FERC Filings
• SEC Filings
• Earnings Releases

Entities
• Companies
• Government Entities
• Internationals

Assets
• Pipelines
• Refineries
• Processing Plants
• Power Generation

Attributes
• Geospatial
• Categories
• Commodities
• Tags
US Total Petroleum Inventories

![Graph of US Total Petroleum Stocks with SPR - EIA](image)

**US TOTAL PETROLEUM STOCKS WITH SPR - EIA**

- **2016**
- **2015**
- **5 Yr Avg**
- **5 Yr Max**
- **5 Yr Min**

**1,000 Barrels**

European Inventories

ARA Total Petroleum Stocks

Source - PJK/Bloomberg
Singaporean Inventories

SINGAPORE TOTAL STOCKS

Source - International Enterprise Singapore/Bloomberg
US Refinery Capacity

EIA US Refinery Capacity

<table>
<thead>
<tr>
<th>2016</th>
<th>2015</th>
<th>5 Yr Avg</th>
<th>5 Yr Max</th>
<th>5 Yr Min</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CRITERION RESEARCH
Financial Margins

CME 321 Refining Margin
EIA Gasoline Estimate Exports

ESTIMATED GASOLINE EXPORTS - EIA

[Graph showing estimated gasoline exports from 2015 to 2016 with 5-year average and minimum and maximum limits.]

CRITERION RESEARCH

14
EIA Estimated Distillate Exports
World Oil Production from Company Reports
US Oil Production from Company Reports

US Actual Reported Oil Production Vs Estimates

Custom Index

Kbd

3/1/11 5/1/11 7/1/11 9/1/11 11/1/11
1/1/12 3/1/12 5/1/12 7/1/12 9/1/12
11/1/12
1/1/13 3/1/13 5/1/13 7/1/13 9/1/13
11/1/13
1/1/14 3/1/14 5/1/14 7/1/14 9/1/14
11/1/14
1/1/15 3/1/15 5/1/15 7/1/15 9/1/15
11/1/15
1/1/16 3/1/16

Actual
Estimates
US Natural Gas Projected Storage Levels
Summary/Conclusions

• Petroleum inventories beginning to slowly clean up
• US refining in much better shape and should remain healthy
• Exports remain supportive, but recent weakness is concerning
• Oil production continues to beat estimates
• US natural gas expected to clean up faster than oil
Thank You
Please contact Criterion Research for additional information